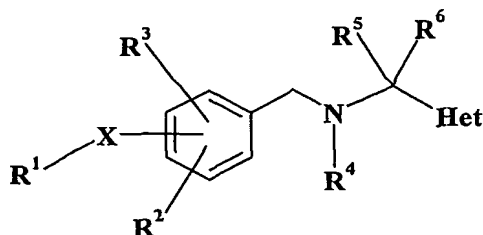


CLAIMS

1. Compounds of general formula I:



I

wherein

X is oxygen or sulphur or a NR⁷ group;

R¹ is C₃-C₈ alkyl, or C₁-C₈ alkyl substituted by phenoxy or phenyl, both phenoxy or phenyl being optionally substituted by one or more fluoro, chloro, trifluoromethyl, C₁-C₆ alkyl, hydroxyl, C₁-C₆ alkoxy;

R², R³ are independently hydrogen, C₁-C₆ alkyl, halogen, trifluoromethyl, hydroxy or C₁-C₆ alkoxy;

R⁴ is hydrogen, C₁-C₈ alkyl;

R⁵, R⁶ are independently hydrogen, C₁-C₃ alkyl, optionally substituted by hydroxy or phenyl;

R⁷ is hydrogen or straight or branched C₁-C₃ alkyl;

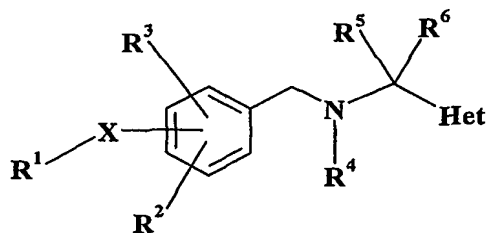
Het is a five to seven membered, saturated or unsaturated heteromonocyclic or an eight to ten membered, saturated or unsaturated heterobicyclic group, containing one or more heteroatoms chosen independently from nitrogen, oxygen and sulphur, said mono- or bicyclic groups being optionally substituted by C₁-C₆alkyl, halogen, hydroxyl or C₁-C₆ alkoxy;

and the pharmaceutically acceptable salts thereof, with the proviso that:

- Het cannot be indole, benzo[b]furan, benzo[b]thiophen, chroman, when R^5 and R^6 are both hydrogen, or 2-pyridyl;
- when R^1 is unsubstituted or substituted benzyl, and R^2 and R^3 are hydrogen, halogen or alkoxy, R^4 is other than hydrogen;
- 5 • when R^1 is propyl or butyl, R^2 , R^3 , R^5 and R^6 are hydrogen and R^4 is hydrogen, methyl or ethyl, Het cannot be 1,4-benzodioxan;
- when X- R^1 is a para butyloxy group and R^2 , R^3 , R^4 , R^5 and R^6 are hydrogen, Het cannot be 2-thiophenyl, or 4-(2,2'-dimethyl)-pyranyl;
- when X- R^1 is an ortho heptyloxy or octyloxy group and R^2 , R^3 , R^4 , R^5 and R^6 are hydrogen, Het cannot be 2-furyl;
- 10 • when X- R^1 is an ortho O-(CH₂)_m-p-CF₃-phenyl group, where m is an integer from 1 to 3, and R^2 , R^3 , R^5 and R^6 are hydrogen, Het cannot be pyridyl.

2. The use of the compounds of formula I

15



I

wherein

- R^1 is C₃-C₈ alkyl, or C₁-C₈ alkyl substituted by phenoxy or phenyl, both phenoxy or phenyl being optionally substituted by one or more fluoro, chloro, trifluoromethyl, C₁-C₆ alkyl, hydroxyl, C₁-C₆ alkoxy;
- R^2 , R^3 are independently hydrogen, C₁-C₆ alkyl, halogen, trifluoromethyl, hydroxy or C₁-C₆ alkoxy;
- R^4 is hydrogen, C₁-C₈ alkyl;
- 25 R^5 , R^6 are independently hydrogen, C₁-C₃ alkyl, optionally substituted

by hydroxy or phenyl;

R⁷ is hydrogen or straight or branched C₁-C₃ alkyl;

X is oxygen or sulphur or a NR⁷ group;

5 Het is a five to seven membered, saturated or unsaturated heteromonocyclic or an eight to ten membered, saturated or unsaturated heterobicyclic group, containing one or more heteroatoms chosen independently from nitrogen, oxygen and sulphur, said mono- or bicyclic groups being optionally substituted by C₁-C₆alkyl, halogen, hydroxyl or C₁-C₆ alkoxy;

10 and the pharmaceutically acceptable salts thereof, with the proviso that:

- Het cannot be an indole, chroman when R⁵ and R⁶ are both hydrogen;
 - when X- R¹ is an ortho O-(CH₂)_m-p-CF₃-phenyl group, where m is an integer from 1 to 3, and R², R³, R⁵ and R⁶ are hydrogen, Het cannot be pyridyl and the pharmaceutically acceptable salts or prodrug thereof, for the
- 15 preparation of a medicament having sodium and/or calcium channel modulating activity and/or selective MAO-B inhibiting activity and therefore useful in preventing, alleviating and curing a wide range of pathologies, including, but not limited to, neurological, psychiatric, cardiovascular, inflammatory, ophthalmic, urologic, metabolic and gastrointestinal diseases.

20 3. The use of compounds according to claim 2 wherein R¹ is benzyl or C₅-C₈ alkyl, R⁴, R⁵, and R⁶ are hydrogen or C₁-C₃ alkyl, X is oxygen and Het is furan, tetrahydrofuran, isoxazol, oxazol, thiophen, pyran, dioxane, unsubstituted or substituted by C₁-C₃ alkyl.

4. The use of a compound according to claim 2 selected from the group

25 consisting of:

(4-Pentyloxy-benzyl)-(furan-2-ylmethyl)-amine;

(4-Heptyloxy-benzyl)-(furan-2-ylmethyl)-amine;

(R) (4-Pentyloxy-benzyl)-(tetrahydro-furan-2-ylmethyl)-amine;

- (S) (4-Pentyloxy-benzyl)-(tetrahydro-furan-2-ylmethyl)-amine;
(R) (4-Heptyloxy-benzyl)-(tetrahydro-furan-2-ylmethyl)-amine;
(S) (4-Heptyloxy-benzyl)-(tetrahydro-furan-2-ylmethyl)-amine;
(R) (4-Pentyloxy-benzyl)-(tetrahydro-pyran-2-ylmethyl)-amine;
5 (S) (4-Pentyloxy-benzyl)-(tetrahydro-pyran-2-ylmethyl)-amine;
(R) (4-Heptyloxy-benzyl)-(tetrahydro-pyran-2-ylmethyl)-amine;
(S) (4-Heptyloxy-benzyl)-(tetrahydro-pyran-2-ylmethyl)-amine;
(4-Benzyloxy-benzyl)-(furan-2-ylmethyl)-amine;
(4-Benzyloxy-benzyl)-(5-methyl-furan-2-ylmethyl)-amine;
10 [4-(3-Fluoro-benzyloxy)-benzyl]-(furan-2-ylmethyl)-amine;
[4-(3-Chloro-benzyloxy)-benzyl]-(furan-2-ylmethyl)-amine;
[4-(3-Fluoro-benzyloxy)-benzyl]-(5-methyl-furan-2-ylmethyl)-amine;
[4-(3-Chloro-benzyloxy)-benzyl]-(5-methyl-furan-2-ylmethyl)-amine;
(R) (4-Benzyloxy-benzyl)-[1-(furan-2-yl)-1-ethyl]-amine;
15 (S) (4-Benzyloxy-benzyl)-[1-(furan-2-yl)-1-ethyl]-amine;
[4-(3-Fluoro-benzyloxy)-benzyl]-[1-(furan-2-yl)-1-ethyl]-amine;
[4-(3-Chloro-benzyloxy)-benzyl]-[1-(furan-2-yl)-1-ethyl]-amine;
(R) (4-Benzyloxy-benzyl)-(tetrahydro-furan-2-ylmethyl)-amine;
(S) (4-Benzyloxy-benzyl)-(tetrahydro-furan-2-ylmethyl)-amine;
20 (R) [4-(3-Fluoro-benzyloxy)-benzyl]-(tetrahydro-furan-2-ylmethyl)-amine;
(S) [4-(3-Fluoro-benzyloxy)-benzyl]-(tetrahydro-furan-2-ylmethyl)-amine;
(R) [4-(3-Chloro-benzyloxy)-benzyl]-(tetrahydro-furan-2-ylmethyl)-amine;
(S) [4-(3-Chloro-benzyloxy)-benzyl]-(tetrahydro-furan-2-ylmethyl)-amine;
(R) [4-(3-Fluoro-benzyloxy)-benzyl]-(tetrahydro-pyran-2-ylmethyl)-amine;
25 (S) [4-(3-Fluoro-benzyloxy)-benzyl]-(tetrahydro-pyran-2-ylmethyl)-amine;
(R) [4-(3-Chloro-benzyloxy)-benzyl]-(tetrahydro-pyran-2-ylmethyl)-amine;
(S) [4-(3-Chloro-benzyloxy)-benzyl]-(tetrahydro-pyran-2-ylmethyl)-amine;
(4-Benzyloxy-benzyl)-(1,4-dioxan-2-ylmethyl)-amine;

- [4-(3-Chloro-benzyloxy)-benzyl]-(pyrido-2-ylmethyl)-amine;
[4-(3-Chloro-benzyloxy)-benzyl]-(pyrido-3-ylmethyl)-amine;
[4-(3-Chloro-benzyloxy)-benzyl]-(pyrido-4-ylmethyl)-amine;
[4-(3-Chloro-benzyloxy)-benzyl]-(imidazol-2-ylmethyl)-amine;
5 [4-(3-Chloro-benzyloxy)-benzyl]-(1-methyl-imidazol-2-ylmethyl)-amine;
[4-(3-Chloro-benzyloxy)-benzyl]-(5-methyl-1H-triazol-2-ylmethyl)-amine;
[4-(3-Chloro-benzyloxy)-benzyl]-(4-methyl-thiazol-2-ylmethyl)-amine;
(4-Benzyloxy-benzyl)-(isoxazol-5-ylmethyl)-amine;
[4-(3-Fluoro-benzyloxy)-benzyl]-(isoxazol-5-ylmethyl)-amine;
10 [4-(3-Chloro-benzyloxy)-benzyl]-(isoxazol-5-ylmethyl)-amine;
(4-Benzyloxy-benzyl)-(3-methyl-isoxazol-5-ylmethyl)-amine;
[4-(3-Fluoro-benzyloxy)-benzyl]-(3-methyl-isoxazol-5-ylmethyl)-amine;
[4-(3-Chloro-benzyloxy)-benzyl]-(3-methyl-isoxazol-5-ylmethyl)-amine;
(4-Benzyloxy-benzyl)-(oxazol-2-ylmethyl)-amine;
15 [4-(3-Fluoro-benzyloxy)-benzyl]-(oxazol-2-ylmethyl)-amine;
[4-(3-Chloro-benzyloxy)-benzyl]-(oxazol-2-ylmethyl)-amine;
(4-Benzyloxy-benzyl)-(oxazol-5-ylmethyl)-amine;
[4-(3-Fluoro-benzyloxy)-benzyl]-(oxazol-5-ylmethyl)-amine;
[4-(3-Chloro-benzyloxy)-benzyl]-(oxazol-5-ylmethyl)-amine;
20 (4-Benzyloxy-benzyl)-(thiophen-2-ylmethyl)-amine;
[2-(3-Chloro-benzyloxy)-benzyl]-(thiophen-2-ylmethyl)-amine;
[2-(3-Fluoro-benzyloxy)-benzyl]-(thiophen-2-ylmethyl)-amine;
[3-(3-Chloro-benzyloxy)-benzyl]-(thiophen-2-ylmethyl)-amine;
[3-(3-Fluoro-benzyloxy)-benzyl]-(thiophen-2-ylmethyl)-amine;
25 [4-(3-Chloro-benzyloxy)-benzyl]-(thiophen-2-ylmethyl)-amine;
[4-(3-Fluoro-benzyloxy)-benzyl]-(thiophen-2-ylmethyl)-amine;
[2-(3-Fluoro-benzyloxy)-benzyl]-(benzo[b]furan-2-ylmethyl)-amine;
[3-(3-Fluoro-benzyloxy)-benzyl]-(benzo[b]furan-2-ylmethyl)-amine;

[4-(3-Fluoro-benzyloxy)-benzyl]-(benzo[b]furan-2-ylmethyl)-amine;

(R) [4-(3-Fluoro-benzyloxy)-benzyl]-(dihydro-benzo[b]furan-2-ylmethyl)-amine;

(S) [4-(3-Fluoro-benzyloxy)-benzyl]-(dihydro-benzo[b]furan-2-ylmethyl)-

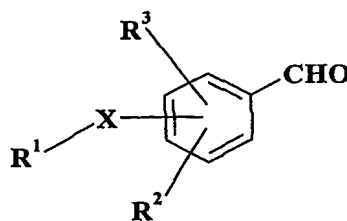
5 amine:

[4-(3-Chloro-benzyloxy)-benzyl]-(benzimidazol-2-ylmethyl)-amine;

either as a single isomer or as a mixture of isomers thereof, and the pharmaceutically acceptable salts thereof.

5. A process for the preparation of a compound of formula I, as defined in claim 1, or a pharmaceutically acceptable salt thereof, the process comprising:

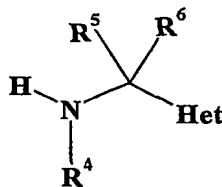
10 a) a reaction of a compounds of formula II



II

15 wherein R¹, R², R³ and X are as defined in claim 1

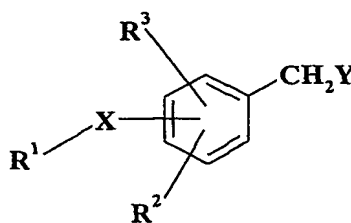
with compounds of formula III, in the presence of a reducing agent



III

20 wherein R⁴, R⁵, R⁶ and Het are as defined in claim 1, in the presence of a reducing agent or

b) a reaction of a compound of formula III with a compound of formula IV,



IV

wherein R¹, R², R³ and X are as defined above and Y is a halogen atom or a
5 O-EWG group, where the EWG means an electron withdrawing group, able to
transform the oxygen which they are linked to, in a good leaving group and, if
desired, converting a compound of the invention into another compound of the
invention and/or, if desired, converting a compound of the invention into a
pharmaceutically acceptable salt and/or, if desired, converting a salt into a free
10 compound.

6. A pharmaceutical composition containing, as an active principle, a
compound of formula I, as defined in claim 1, or a pharmaceutically
acceptable salt thereof in addition to a suitable carrier and/or diluent and
optionally to other therapeutic agents.
- 15 7. A compound of formula I, as defined in claim 1, or a pharmaceutically
acceptable salt thereof, for use as an active therapeutic substance.